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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,771	07/31/2003	Seo Kwang Kim	HI-0154	8462
34610 7590 05/24/2007 KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200			EXAMINER DU, THUAN N	
			ART UNIT 2116	PAPER NUMBER
			MAIL DATE 05/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/630,771	Applicant(s) KIM, SEO KWANG	
	Examiner Thuan N. Du	Art Unit 2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,10-21,24-30 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 and 24-30 is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10-20 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment (dated 3/13/07).
2. Claims 2, 8, 9, 22, 23 and 31-33 have been canceled. Claim 34 has been added. Claims 1, 3-7, 10-21, 24-30 and 34 are presented for examination.

Claim Objections

3. Claims 1-5 and 16 are objected to because of the following informalities:

In claim 1, the “operating mode” and the “reduced power mode” recited in lines 4-5 is the power modes of a computer system while the “operating mode” and the “reduced power mode” recited in lines 9-10 is the power modes of a device. As such, the phrase “wherein the device driver is configured to changed a power mode of the device among the at least one of the operating mode and the reduced power mode” should be read as -- wherein the device driver is configured to changed a power mode of the device among the at least one of an operating mode and a reduced power mode --. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. Claims 1, 3-7, 10-20 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souza et al. [Souza], U.S. Patent No. 7,103,788 in view of Shiell et al. [Shiell], U.S. Patent No. 6,065,125.

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5. Regarding claim 1, Souza teaches an apparatus for managing power in a computer system, the apparatus comprising:

an operation system configured to set up a power mode of the computer system, wherein the power mode includes at least one of an operating mode and a power down mode [at col. 1, lines 56-59, Souza stated that “. . . any devices on the bus . . . to enter a low power mode *even while* the computing system retains full operation power” (emphasis added). As such, one of ordinary skill in the art would have recognized that the devices on the bus are allowed to enter a low power mode while the computing system is in either full operation mode or power down mode. Therefore, Souza teaches the claimed limitation];

at least one device (90, 92) configured to perform specific functions and operations [col. 3, lines 4-5];

at least one device driver configured to control operations of the device, wherein the device driver is configured to change a power mode of the device among at least one of an operating mode and a power down mode [col. 3, lines 54-56].

a filter driver (USB core stack) coupled to the operation system, wherein the filter driver is configured to generate a signal to cause the device driver to individually change the power mode of the device to operate in the reduced power mode when the computer system is in the operating mode [col. 1, lines 56-59; col. 3, lines 39-56; col. 16, lines 36-40], the filter driver generating said signal by detecting that the device is in an idle state [col. 3, lines 39-49].

Souza does not explicitly detail how the idle state of the device is determined.

Shiell teaches a power management system comprising a timer and a comparator for comparing an accumulated amount of time the device has been in idle state to a predetermined

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time and controlling the device to operate in a reduced power mode based on a result of the comparison [col. 4, lines 49-56].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Souza and Shiell because they both directed to placing the device in a reduced power mode when the device is in idle state. Shiell's teaching of comparing an accumulated amount of time the device has been in idle state to a predetermined time and controlling the device to operate in a reduced power mode based on a result of the comparison would decrease the power consumed by the device by accurately determine when the device should be placed in the power reduced mode.

6. Regarding claim 3, Souza teaches that the filter driver monitors transceived packets between the operation system and the device driver and detects each device in the idle state [col. 4, lines 4-12].

7. Regarding claim 4, Souza teaches that the filter driver generates and outputs a FIRP configured to change the power mode the power mode of the corresponding device from the operating mode to the power down mode [col. 4, lines 12-17].

8. Regarding claim 5, Souza teaches that the device and the device driver comprise a sound card and a sound driver [col. 4, lines 23-25].

9. Regarding claim 34, Souza teaches that the reduced power mode is one of a standby mode, a suspend mode, or a power down mode [col. 3, lines 47-49].

10. Regarding claims 6 and 7, Souza teaches a method comprising:

operating a computer system in first and second power modes [at col. 1, lines 56-59, Souza stated that "... any devices on the bus ... to enter a low power mode *even while* the

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computing system retains full operation power” (emphasis added). As such, one of ordinary skill in the art would have recognized that the devices on the bus are allowed to enter a low power mode while the computing system is in either full operation mode or power down mode.

Therefore, Souza teaches the claimed limitation];

operating devices in the computer system in the first and the second power modes [col. 1, lines 56-58]; and

changing a power mode of one of the devices from the first power mode to the second power mode when the computer system is in the first power mode [col. 1, lines 56-59], said changing including detecting that the device is in an idle state [col. 3, lines 39-49].

Souza does not explicitly detail how the idle state of the device is determined.

Shiell teaches a power management system comprising a timer and a comparator for comparing an accumulated amount of time the device has been in idle state to a predetermined time and controlling the device to operate in a reduced power mode based on a result of the comparison [col. 4, lines 49-56].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Souza and Shiell because they both directed to placing the device in a reduced power mode when the device is in idle state. Shiell’s teaching of comparing an accumulated amount of time the device has been in idle state to a predetermined time and controlling the device to operate in a reduced power mode based on a result of the comparison would decrease the power consumed by the device by accurately determine when the device should be placed in the power reduced mode.

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11. Regarding claim 10, Souza teaches that the detecting step comprises: monitoring transceived packets between an operation system in the computer and device drivers and detecting the idle state if the devices [col. 4, lines 4-12].

12. Regarding claims 11 and 12, Souza teaches the changing comprises: generating a control message at a filter driver and transferring the control message to the device [col. 4, lines 12-17]; and Shiell teaches the comparison of the accumulated amount of time of the device to the prescribed amount [col. 4, lines 52-56].

13. Regarding claims 13, Shiell teaches that the changing comprises operating the device in the first power mode if the accumulated time is not greater than the prescribed amount [col. 4, lines 55-56].

14. Regarding claim 14, Shiell teaches that the prescribed amount has a first timeout value in a battery mode, a second timeout value in a performance mode, and the prescribed amount varies according to an object device [col. 3, lines 47-67], and wherein the prescribed amount or said at least one device is set by a user or preset [col. 4, lines 45-48].

15. Regarding claim 15, Souza does not explicitly teach that the system generates a power control message indicating the system power mode to the device and changing the power state of the device accordingly. However, one of ordinary skill in the art would have obviously recognized that the device must know the system power state before the device can change its power state (the device cannot be in operation power state while the system is in power down state).

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16. Regarding claim 16, Souza teaches that the changing comprises independently controlling two of the devices to operate in the second power mode when the computer system is in the first power mode [col. 3, lines 57-62].

17. Regarding claims 17-20, they do not teach or further define over the limitations recited in the rejected claims above. Therefore, claims 17-20 are also rejected as being unpatentable over Souza in view of Shiell for the same reasons set forth in the rejected claims above.

Allowable Subject Matter

18. Claims 21 and 24-30 are allowed.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan N. Du whose telephone number is (571) 272-3673. The examiner can normally be reached on Monday-Friday: 7:30 am - 4:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached at (571) 272-3676.

Central TC telephone number is (571) 272-2100.

The fax number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

TD
May 17, 2007



THUAN H. DU
PRIMARY EXAMINER